

BRITISH SUGAR BEET REVIEW

INCORPORATING THE BRITISH BEET GROWER AND BEET SUGAR TIMES

VOL. VII. No. 9.

MAY-JUNE, 1934.

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CONTRIBUTIONS are invited from all those engaged in beet-growing or beet sugar manufacture. Articles, unless of a scientific nature, should not exceed 1,500 words. Contributions accepted will be paid for upon publication, when all rights will be vested in the proprietor. Items of news from any quarter are always welcomed by the Editor.

"Copy" intended for the following month's issue should reach the Editor on or before the 15th of the month.

PHOTOGRAPHS.—Interesting photographs of beet-growing operations, factory working or topical pictures relating in any way to the industry are desired, and will be paid for upon appearance in the *BRITISH SUGAR BEET REVIEW*. A short description should accompany photographs.

CORRESPONDENCE.—Letters are invited asking information on any phase of the industry. Queries will be answered in the following issue if the enquiry is received in time, or by post if specially requested.

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All EDITORIAL COMMUNICATIONS must be addressed to the Editor, *BRITISH SUGAR BEET REVIEW*, 54, Courtfield Gardens, London, S.W.5 (Telephone: Frobisher 2583). All MSS. intended for publication should be written on one side of the paper.

All communications relating to ADVERTISEMENTS must be addressed to the Advertisement Manager, *BRITISH SUGAR BEET REVIEW*, 57 and 59, Ludgate Hill, E.C.4 (Telephone: City 2739). Copy for advertisements must be received by them on or before the 12th of the month preceding publication date.

Editorial Notes

Prosperity at Last?

EVERY marketing board so far established has come in for its share of criticism. Some have flourished on it; others have wilted under it. What will be the future of the Sugar Beet Marketing Scheme? Every portent points to success, and what is most important at this stage is that the scheme is obviously drawn up on the right lines for the protection and development of a phase of agriculture which increases in importance every year.

It is easy to be over-optimistic when considering co-ordination schemes to be applied to a particular branch of a particular industry. Other branches of agriculture have tried co-ordination without conspicuous success, up to the present.

But the Sugar Beet Marketing Scheme has all the trump cards in the game in its favour. First and foremost, it is not an experiment in the generally accepted sense of the word; it is a logical conclusion. It is, we believe, the only marketing scheme based and built up on practical experience. In it are embodied the lessons learned by the farmers and by the factories during the ten

momentous years of the existence of the subsidy. And, happy omen, the launching of the scheme will, it appears, be accompanied by the good wishes and blessings of those whom it will mostly affect.

Another cardinal point is that the Board administering the scheme will have no tedious spade-work to do, no untangling the skein of varied interests and laying the foundations of both scientific and industrial research. They take over the reins of a scheme which has been perfected and built up during a decade of hard work on the part of the National Farmers' Union, the sugar beet factories, and, to an extent, the Ministry of Agriculture itself. The fact that the N.F.U. has sponsored the scheme is an indication of its soundness.

The administrative Board—a representative one drawn from all parts of Great Britain—are starting in smooth waters, and any squalls ahead can be faced with the knowledge that the ship is sound and the crew experienced. In its hands, the Board holds the power to lead the beet sugar industry to still greater heights, establish it on a self-supporting and lucrative basis, and to fashion a model on which other

marketing schemes may be based, for the benefit of the whole farming community.

The issue at stake is, to all intents and purposes, individualism *versus* rationalisation and co-ordination, as applied to agriculture. Individualism is gradually losing ground in every form of industry, from transport to pig-breeding, from electricity supply to milk marketing. Will it eventually disappear from its last real stronghold, agriculture? The British agriculturist has always been a sturdy individualist; John Bull, our national symbol, typifies the independence of the squire and farmer. Can this independence be carried any farther in an age of intensive rationalisation? If we are to learn lessons from other countries, it obviously cannot.

Scandinavia, the U.S.A., and even Russia, have carried experimental work in rationalisation so far that the individualist now has no case to put forward. Organised on the right lines a rationalised industry must gain an immense advantage over its non-organised competitors. It is a lesson which, not only in agriculture, Britain is at last taking to heart.

The Sugar Beet Marketing Scheme certainly has the right organisation for development and expansion. Its powers are necessarily all-embracing and its constitution sound. Of the minor clauses of the scheme one of the most important is that giving the Board power to exploit the commercial side of the industry. It is of the utmost importance that the commercial side should keep pace with the exploitation of the scientific and development sides of the industry, as has been done in similar industries.

The average member of the public knows nothing of the value of sugar produced from home-grown sugar beets and prepared under hygienic conditions in our own factories as compared with imported sugar. It is time the public was told. In this case the old proverb that a little knowledge is a dangerous thing would be reversed.

Export Bounties on Sugar

A NUMBER of Continental countries are contemplating the creation of a sugar export fund, to which the producers and the respective governments would contribute in agreed proportions.

Preferential Excise Duty

THE Financial Secretary to the Treasury stated in Parliament that the difference between the amount of Excise Duty received on sugar and molasses manufactured from home-grown beet, and the amount of duty which would have been received, had duty been charged on a similar quantity of British refined sugar and molasses of foreign origin, are approximately as follows:—

Year ended 31st March.						£
1924-25	...	...	...	...	...	46,000
1925-26	...	...	...	...	...	213,000
1926-27	...	...	...	...	...	583,000
1927-28	...	...	...	...	...	761,000
1928-29	...	...	...	...	...	678,000
1929-30	...	...	...	...	...	1,017,000
1930-31	...	...	...	...	...	1,525,000
1931-32	...	...	...	...	...	1,193,000
1932-33	...	...	...	...	...	1,288,000
1933-34 (provisional)	...	...	...	...	...	2,098,000

Sugar Beet in Norfolk

IN answer to a question in the House of Commons by Mr. Thomas Cook, Unionist M.P. for Norfolk N., as to the number of acres under sugar beet in the county of Norfolk for the last three seasons respectively, the following answer was given:—

1933—	99,834 acres.
1932—	66,135 acres.
1931—	41,980 acres.

Beet Sugar Company Accounts

MR. NEVILLE CHAMBERLAIN stated in Parliament that the books of all the beet sugar companies were investigated by an independent firm of accountants on behalf of the Treasury, and that the reports have been communicated with the Committee of Inquiry.

Anniversary

MESSRS. HJALMAR HARTMANN and Co., of Copenhagen, the originators and growers of "Glostrup" sugar beet, celebrated the 40th anniversary of the firm on May 1st.

Supply of Labour

MR. MACLEAN (Labour M.P. for Govan) asked the Minister of Labour the number of persons supplied through the employment exchanges for the cultivation and harvesting of sugar beet for the years 1930-1933, to which the Minister gave the following figures:—

1930	...	...	...	5,923
1931	...	...	...	3,407
1932	...	...	...	3,367
1933	...	...	...	5,469

The Sugar Beet Marketing Scheme

A Summary of the Proposals

A SCHEME under the Agricultural Marketing Acts, 1931 and 1933, regulating the marketing of sugar beet has been submitted to the Minister of Agriculture. The scheme applies to Great Britain. Until July, 1935, when the first elections of the members of the Board to administer the scheme will take place, the Board will consist of the following persons:—

J. Alston, of Uphall, East Harling, Norwich; W. J. Atkinson, of Weston St. Mary, Spalding, Lincs.; D. Black, of Red House, Bacton, Stowmarket, Suffolk; W. Bruce, of Seton Mains, Longniddry, East Lothian; T. Powell-Davies, of The Folley, Lydbury North, Salop; J. Garton, of The Woods, Hatfield Broad Oak, Bishops Stortford, Herts; A. Lewis, of Panworth Hall, Ashill, Thetford, Norfolk; H. G. Martin, of Highfield House, Littleport, Ely, Cambs.; B. Moore, of Manor Hall, Moulton St. Mary, Acle, Norfolk; C. Neville, of Whisby Hall, Lincoln; Major R. G. Proby, of The Bury Leas, Elton, Peterborough; J. Ramsden, of Myton Grange, Helperby, York; S. O. Ratcliff, of Brick House, Maldon, Essex; Major R. C. Ridley, of The Abbey, Eye, Suffolk; E. W. Vessey, of Plots Farm, Barnby, Newark, Notts; R. S. Wade, of Dunston Park, Portfield Gate, Haverfordwest, Pembroke; J. F. Wright, of Oaklands, Aldeby, Beccles, Norfolk, and two persons nominated by the Minister of Agriculture in accordance with the Agricultural Marketing Act, 1933.

After the first election has taken place, representation on the Board will be as follows:—

- (a) Sixteen district members to be elected by the registered producers of each of the following districts:

Name of district: Lincolnshire. Area: Holland, Kesteven, Lindsey. Representatives on Board: Two members. Name of district: Midlands. Area: Derbyshire, Leicestershire, Northamptonshire, Nottinghamshire, Peterborough, Rutland, Staffordshire, Warwickshire. Representative on Board: One member. Name of district: East Midlands. Area: Cambridgeshire, Huntingdonshire, Isle of Ely. Representatives on Board: Two members. Name of district: West Midlands. Area: Cheshire, Gloucestershire, Herefordshire, Shropshire, Worcestershire. Representative on Board: One member. Name of district: Norfolk. Representatives on Board: Four members. Name of district: Northern. Area: Cumberland, Durham, Lancashire, Northumberland, Westmorland, Yorks, East Riding, North Riding and West Riding. Representative on Board: One member. Name of district: Southern. Area: Bedfordshire, Berkshire, Buckinghamshire, Cornwall, Devon, Dorset, Essex, Hampshire, Hertfordshire, Isle of Wight, Kent, Middlesex, Oxfordshire, Somerset, Surrey, Sussex East, Sussex West, Wiltshire. Representative on Board: One member. Name of district: Suffolk. Area: East and West. Representatives on Board: Two members. Name of district: Wales. Area: Including Monmouthshire. Representative on Board: One member. Name of district: Scotland. Area: The whole of Scotland. Representative on Board: One member. Total, 16.

- (b) Three special members to be elected by the registered producers at the general meetings.
(c) Two persons co-opted to the Board after consultations with the Market Supply Committee.

The election of district members and special members will take place every third year subject to certain provisions for the first three years.

The Executive Committee

The Board will appoint from among their members an Executive Committee of not more than seven persons, one of whom shall, until the first election, be nominated by the Minister of Agriculture and thereafter be one of the two co-opted members. The Board has the power to delegate to the Executive Committee all their functions except those specially exempted. The Board will also have power to appoint special Committees and employ a secretary and other officers. Until the Board begins to function Mr. F. S. Graff, of 45, Bedford Square, London, W.C.1, will act as Secretary. The Board will have offices in England and in Scotland.

Research and Education

The Board has power to make contributions to promote agricultural co-operation, research and education, for making experiments with implements, seeds, machinery and equipment in connection with the production and storage of sugar beet.

Register of Producers

Every producer of sugar beet is entitled to be registered as such by the Board. On the coming into force of the scheme a poll of the registered producers will take place on the question whether this scheme is to remain in force. For the purpose of this and any subsequent poll, every registered producer has one vote for each acre or part of an acre on which he is growing beet. In the case of election every producer has one vote per acre for each member to be elected as representative of the district. A poll on a substitutional scheme or an amendment of this scheme may be demanded in writing by any 500 registered producers who are in the aggregate growing sugar beet on 5,000 acres.

A producer of sugar beet in Great Britain who is neither registered nor exempted from registration will not be permitted to sell sugar beet in Great Britain or elsewhere. The Board has the power to regulate the sale, the description of beet which may be sold and the persons to whom it may be sold; the prices and the terms of contracts, as also the quantity which may be sold by any registered producer. The Board may buy sugar beet, lease, acquire an interest or establish sugar factories, and regulate the transport of beet.

Growers' Contributions

For the purpose of the operation of the scheme every registered producer shall contribute a sum not exceeding 6d. per ton of beet delivered. In the event of the winding up of the Board, every registered producer shall be liable to contribute to the payment of the debts and liabilities an amount assessed proportionately to the maximum acreage he was growing at any time, but this contribution is limited to 5s. per acre.

In the last part of the scheme an arbitrator is provided for, to whom any producer who is aggrieved by any act or omission of the Board may refer his case.

Farm Crop Variety Trials

A CORDIAL invitation to visit the National Institute of Agricultural Botany during the summer months is extended to all who are interested in agriculture. Choice of the right variety of the right crop is of vital importance to farmers; though it costs no more and sometimes less to grow the right variety instead of the wrong one, there may be as big a difference as twenty per cent. in the returns the two give. Farmers who want to assure themselves that they are growing the right varieties of cereals, sugar beet, roots and other crops cannot do better than go to see the trials at Cambridge or one of the other centres—Sprowston (Norfolk), Good Easter (Essex), Long Sutton (Hants), Cannington (Somerset), and Newport (Salop). July is the best month. Visitors are welcome either singly or in parties, but arrangements should be made beforehand by writing to the Secretary, N.I.A.B., Huntingdon Road, Cambridge.

Miners for Sugar Beet

UNDER an arrangement with the Ministry of Labour, a party of 35 unemployed miners from the North are to work on the farm of Captain Keith, Swaffham, Norfolk.

Labour for Sugar Beet

FARMERS and growers of sugar beet who will require additional labour during the coming season will be interested to learn of the special arrangements which are being made by the National Employment Exchange Service to assist them to obtain the additional workers they require for seasonal agricultural employment, and, especially, for field work in connection with the growing of sugar beet.

During 1933, over 72,000 agricultural workers were engaged through the Exchanges, including some 5,500 for the hoeing and singling, and lifting and topping of the sugar beet. The number of workpeople placed with sugar beet growers increased by 2,100, compared with 1932. It is evident that farmers and growers are finding it increasingly convenient to engage workers through the Exchanges. The special service which the Exchanges provide for the agricultural industry is being extended in a number of directions, based on the experience which has been gained during the last few years of the special requirements of farmers and growers.

Co-ordinating Labour

During the seasons, special records will be kept of workers experienced in sugar beet work. Every effort will be made by local officers of the Exchange service to keep in close touch with the labour position in their areas, and close co-operation will be maintained with the fieldmen attached to the beet sugar factories. Mobile officers of the Ministry have been appointed in a greater number of districts to provide a link between the grower and the Exchange service and to co-ordinate supplies of labour between districts. Special labour clearing arrangements have been made to meet the requirements of districts in which temporary shortages of labour may occur. The arrangements made ensure that the resources of the network of 1,180 Local Offices of the Exchange Service throughout the country, and of the special arrangements made to meet the requirements of the agricultural industry, are available to a farmer or grower through the Local Office in his district.

Further development of the service depends on the co-operation of both employers and agricultural workers, and efforts are being made this year to encourage a wider use of the Exchanges. Temporary offices are being opened in a number of outlying areas at which the officers of the Exchange service will attend at regular intervals for the convenience of employers and for the purpose of registering unemployed agricultural workers. The Exchanges will also be represented at numbers of market places and hiring fairs, and at some 70 agricultural shows throughout the country.

The service offered by the Exchanges is open to all employers and workers and is, of course, given without charge. Every effort is made to meet the requirements of employers promptly, but it is desirable that vacancies should be notified to Exchanges as early as convenient, particularly when large parties of workers are required, in order that the Exchanges should have an opportunity of submitting the most suitable applicants available and, where necessary,

arranging to bring the employment to the notice of workpeople in other districts.

Vacancies may be notified to the mobile officers or to the local Exchange, by telephone, by post, or by personal call. The Exchanges were in a position last season to meet greater demands for workpeople for agricultural employment than were actually made, and it is hoped that the special facilities provided will be used by growers to a greater extent during the present year.

Visit to a German Sugar Estate

FOLLOWING an invitation of Messrs. G. Schreiber and Sons, Nordhausen, a representative party of British agriculturalists visited their extensive estates and seed-breeding stations. Those taking part in this excursion were:—

S. O. Ratcliff (President, National Farmers' Union), F. S. Graff (Secretary N.F.U., Beet Sugar Committee), S. F. Armstrong (National Institute Agricultural Botany, Cambridge), F. Rayns (Norfolk Agricultural Station, Sprowston, Norwich), R. Sayce (Suffolk County Agricultural Organisation), W. B. Thompson (Vice-Principal, Harper Adams College), Glen Mowbray (Peterborough Factory), G. F. N. Battle (Bardney Factory), G. R. Parkes (Allscott Factory), A. G. Short (Selby Factory), L. T. Fulcher (Bury St. Edmunds Factory), G. T. Paterson (Bury St. Edmunds Factory), R. Taylor (Bury St. Edmunds Factory), A. Aitken (Worksop College), I. J. Schapring (British Sugar Beet Review), Andrew Aitken (representing Messrs. G. Schreiber and Sons, Nordhausen).

The party left London on May 28th and returned on June 5th. The itinerary also included the visit to the seed-testing station attached to the Halle University and the Annual German Agricultural Show, held this year in Erfurt, and corresponding to our agricultural show. Owing to lack of space, we have to postpone a detailed description of this very instructive excursion to a later issue.

Various Government Subsidies

OFFICIAL figures circulated in Parliament show the following amounts of subsidies granted from State funds for civil aviation, sugar beet, housing and coal industries for each year from 1920 to the latest available date:—

Financial year	Civil Aviation (Commercial subsidies) £	Sugar Beet £	Housing £	Coal Industry £	Total £
1920	—	—	3,238,093	—	3,238,093
1921	75,625	—	9,768,478	7,048,630	16,892,733
1922	181,752	—	10,492,512	—	10,674,264
1923	125,258	—	8,773,726	113	8,899,097
1924	138,511	492,040	9,045,588	—	9,676,139
1925	137,000	1,066,090	8,877,824	18,999,997	29,080,911
1926	172,480	3,225,859	9,448,253	4,199,088	17,045,680
1927	226,400	4,309,260	10,780,050	28,772	15,344,482
1928	230,600	2,854,239	12,067,927	—	15,152,766
1929	341,700	4,229,730	12,727,320	—	17,298,750
1930	388,800	6,022,972	13,668,333	—	20,080,105
1931	394,900	2,135,192	14,520,831	—	17,050,923
1932	398,300	2,356,207	15,214,726	—	17,969,233
1933	400,000	3,332,910	15,299,916	—	19,032,826
(approx.)					
Total	3,211,326	30,024,499	153,923,527	30,276,600	217,436,002

The Sugar Marketing Scheme

THE public inquiry into the Sugar Marketing Scheme before Mr. Joshua Scholefield, K.C., terminated on May 10th after a six-day sitting.

Sir Norman Raeburn, K.C., and Mr. John Lindsay (instructed by Messrs. Linklaters and Paines) appeared on behalf of the promoters. Mr. Lionel P. Heald (instructed by Messrs. Bevan, Hancock and Co., Bristol) appeared on behalf of Messrs. Dutton and Knight, Ltd. Mr. D. A. Scott Cairns (instructed by Messrs. Norton, Rose and Co.) appeared on behalf of Messrs. The Sussex Beet Growers Association, Ltd., and Messrs. The Sussex Sugar Company Ltd. Mr. A. Whittaker (solicitor) appeared on behalf of the Manufacturing Confectioners' Alliance, the Food Manufacturers' Federation and the Fruit and Vegetable Canners' Association. The Right Honourable A. V. Alexander (Secretary) appeared on behalf of the Parliamentary Committee of the Co-Operative Congress. Mr. W. Herman Kent (general secretary) appeared on behalf of the Federation of Grocers' Association of the United Kingdom. Mr. J. B. Ramsey appeared in person. Mr. W. H. Knight appeared on behalf of Messrs. Liverpool Sugar Products Company, Ltd., and Messrs. Fraser and Carmichael were also represented.

Sir Norman Raeburn opened the inquiry on behalf of the promoters. The principal submissions presented by the objectors were to postpone the consideration of this scheme until Mr. Wilfred Green's Committee or a Reorganisation Commission had reported upon it. Sir Norman, in explaining the scheme, said that the promoters were twenty-two producing companies which with minor unimportant exceptions were responsible between them for all the sugar produced in Great Britain. There were two sources of sugar which were dealt with in this country, he said. One was raw sugar which was imported from abroad, the other was sugar extracted from sugar beet grown in various parts of this country. The productive capacity of those producers per annum was something like 4,000,000 tons of white sugar, while the annual consumption of sugar in this country was round about 2,000,000 tons.

There was, therefore, he explained, a potential capacity of over-production of about 2,000,000 tons, which obviously led to wasteful competition in a variety of directions. This was not a scheme for regulating prices, it was a scheme for regulating sales of sugar by a system of quotas. But to safeguard the consumer against any undue rise in the price of sugar, the promoters had given an undertaking to the Government that the margin between the world price of raw sugar and the price of refined sugar to the consumer should not exceed an "agreed maximum," provided that circumstances affecting the margin, but outside the control of the industry, did not alter such, as for example, the import duties.

Sir Alfred Wood, the witness called by the promoters, who, besides his various long-standing connections with the Home-grown Beet Sugar industry is also the Honorary Secretary of the Committee promoting this scheme, said that the twenty-two companies who are responsible for the scheme had been operating for the past twelve months a voluntary system of the type proposed. The basis of this present scheme was rationing by quotas. In the quota arrangement the annual consumption was being divided between the beet sugar manufacturers and the refiners, the former being entitled to 5/19ths and the latter to 14/19ths of the annual consumption. Except for minor com-

plaints which were immediately settled, this voluntary quota has worked without any difficulty. An undertaking was also given to the Government in the sense mentioned by Sir Norman Raeburn as to the protection of the consumers against a rise in price. During Mr. Wood's cross-examination it was suggested that an additional duty of 2/4 per cwt. on all imported sugar may take the place of the present subsidy. As regards the proposed Chichester factory, Mr. Wood expressed his opinion that the area could attract the necessary acreage for a factory, but from the point of view of the existing factories it was undesirable to permit this factory to make white sugar.

Royal Show

THE exhibition stand of the beet sugar factories of Great Britain, at the Royal Agricultural Show, at Ipswich, July 3rd to 7th, is No. 229, and will be found upon the right-hand side of the showyard upon entering near the machinery entrance gate. All interested in the sugar beet industry should pay a visit to the stand to inspect the interesting collection of diagrams, pictures, sugar pulp, etc.

The stand will be in the charge of Mr. Andrew Aitken, exhibition officer to the factories.

The Case of the Chichester Factory

Facts for the Critics

THE claims of the Sussex farmers for a beet sugar factory were amply dealt with at the public inquiry reported above. Mr. D. A. Scott Cairns, representing the Sussex interests, said, in summing up, that his case depends upon the answer to three questions: first, is a factory in Sussex desirable? secondly, is it practicable? and thirdly, will the quota provisions of the draft scheme as they stand do any substantial harm to the farmers of Sussex, assuming that a factory is desirable and is practicable and is erected?

As to the desirability of a factory in Sussex from the point of view of the farmers, there can be no real doubt. To the extent of 3,000 acres they have found it worth while to grow this crop, despite the tremendous handicap of the great transport charges that they have to bear. That that acreage could, with tremendous advantage, be increased to the extent necessary to start a factory and subsequently to a greater extent is, Mr. Cairns said, abundantly clear upon the evidence. It would lead to increased employment, it would lead to improvement of the land of Sussex, it would give the farmers a crop upon which they can get a cash return, which is not available in the same way with other root crops. From a national point of view it is obviously desirable and fair that the benefit of sugar beet growing should not be confined to particular areas, but should be available in every area where there are good opportunities of growing the crop, and there is ample evidence that Sussex is an area admirably suited for that purpose.

Is It Practicable?

Now, assuming that a factory is held to be desirable in Sussex, the question arises, is the erection of a factory there a really practicable proposition, for which provision should be made in the scheme? The site, the water supply and the means of disposing of effluent have all been considered and the evidence is clearly in favour of this scheme. As far as the beet acreage is concerned, Mr. Alfred Wood very fairly said in his evidence that he thought if a factory were there it would attract the necessary acreage to make it profitable. Once the position with regard to the future of the industry is a matter not of speculation but of certainty, and once it is granted

that the Sussex factory should have the same opportunities of trading on the same terms as the existing factories, there is no reason to suppose that there would be any more difficulty in getting the capital. People who are going to invest capital are likely to be more anxious to invest it if they know what the policy for the whole of the future of the industry is going to be, than at a time when the policy is specified only for a limited short period.

Is It Necessary?

Now, the third and perhaps most important question is as to whether it is really necessary for there to be a power of refining as well as the power of manufacturing sugar at any factory which may be erected in Sussex. Very careful and fair evidence was given on this point, namely, that if a scheme of this kind goes through, then a factory which had not the power to produce refined sugar would be at a grave disadvantage. An offer made by Mr. Wood that the refiners would be prepared to pay for the raw sugar at the ruling price is of no value. The other factories will be in the position that if the price that they are offered for their sugar is not an acceptable one, they can refine to the extent of their full quota, which in the aggregate is about double what they have been refining in the last year or two. In that way they will make themselves entirely independent of the refineries, entirely independent of any raw sugar price.

If the Sussex factory is to come in with only power to produce raw sugar, then the ruling price may be something which is so low as to make its trading unprofitable, because the factory will not have the safeguard which the other factories have, or would have, of being able to give an answer to the refiners, "If that is your price for raw sugar, then we shall refine ourselves."

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June Notes for Beet Growers

By
H.I.M.

SINGLING time is perhaps the most critical period in the life history of the beet plant. The size of the mature root will depend to a great extent upon the care and attention which the plant receives at this important time. Two points have to be borne in mind, first, time of singling, and secondly, care in singling. Both have received much attention in these pages from time to time, but the realisation of their importance is so essential to a high yield per acre that repetition is permissible.

THE best time for singling the crop is when the first rough leaves have formed. Once this stage is allowed to pass, the plants suffer from overcrowding, a setback from which it is extremely unlikely that they will ever recover. Furthermore, the larger the plant at singling time the more liable it is to suffer from disturbance and the longer is the period needed for recuperation. Ideally, there should be no disturbance and no recuperation necessary after singling. The plant which is to remain should be left untouched except, perhaps, for firming the soil around the root.

AN experiment carried out in Yorkshire in 1926 on the time of singling gave the following results:—Singled at the correct time, 10.15 tons per acre; singled 12 days later, 8.65 tons per acre; singled 22 days later, 8.20 tons per acre. Surely then this operation should receive the attention it merits. Delay is dangerous, and may involve a loss of £'s per acre.

EQUALLY important is the care taken in singling. Undoubtedly the best method is to chop out or gap by hoe, and to single by hand. The advantage of this method is that the largest plant in a bunch can be selected to remain and the chosen one can be left firmly pressed into the soil, thereby minimising any risk of undue disturbance. The plants from a single "fruit," or so-called beet "seed," vary enormously in vitality and in the size they attain at maturity. The largest plant in the bunch invariably gives the heaviest root at harvest. This method is not appreciably slower than the method of chopping out and singling with the hoe, and when the benefits are balanced against the longer time taken to single by hand, the balance is in favour of hand work by a substantial margin.

WHEN the men are working at piece rates the standard of work can be improved by the offer of a bonus for leaving a certain number of plants per chain length of row, 70-80 being a suitable standard to set. Careless work should not be tolerated,

and it is as well to remember that the fate of the crop is largely in the singlers' hands. A careless or poor workman can do irretrievable damage, and cheap, unskilled labour is likely to prove most expensive in the long run.

THE season is scarcely likely to pass without the appearance of the Blister Fly or Beet Fly. The pale yellow blisters caused by the small white grubs burrowing in the leaf tissues are well known. There is no treatment that can be used on a large

scale economically, and the best thing to do if an attack has the appearance of becoming severe is to give a top dressing of a quick-acting nitrogenous fertiliser, such as nitrate of soda, which will act as a stimulant and help the plant to resist the ravages of the pest. A light rolling is also helpful if the plants are not too big. The plants do not suffer under the roller, but the grubs are squashed. Mind and keep the hedgerows free of "keks," or wild chervil, as this is an alternative source of food to the Beet Fly.

Feeding the Sugar Beet Crop

By A. COOMBE, DIP. AGRIC. (WYE)

TO appreciate fully the manurial requirements of sugar beet, it should be understood that the function of the leaf is to manufacture the sugar from the carbon dioxide in the air, with the aid of diffused sunlight—not necessarily direct sunlight. The function of the root is to store the sugar and it therefore follows that the grower has to aim at producing a plant having a healthy but not superabundant top, and a root capable of assimilating the sugar manufactured by that top.

Sugar beet does not like excess of organic matter in any form, and if such is present not only will there be an over-abundance of top, but the root will probably be small, stunted and fangy, and yield a lower percentage of sugar. The most successful crops are grown where farmyard manure has been applied to the previous crop. Heavy yields can be grown with artificials alone, but this is not advocated except when farmyard manure is not available, or in places where the expense of carting it would be too great.

Phosphates and Yield

It is generally considered that phosphoric acid is best supplied to the beet in the form of superphosphate, but on soils lacking in lime it is a good practice to apply the phosphate as basic slag or ground mineral phosphate in the winter or early spring. Phosphates are necessary to get sugar beet of high quality, but have little influence on the yield per acre. An excess of phosphates harms the beet and induces premature ripening, thus the final yield and percentage of sugar is lowered.

Potash is a most necessary fertiliser for sugar beet, which responds well to this plant food, particularly on light soils. It should always be included in any manurial scheme, even for strong land, although it is the light, sandy, gravelly soils which are most in need of this ingredient. It is of importance in the development of leaf and root alike: in the former, in providing the sugar, and in the latter, the necessary cells for the storage of the sugar. Potash may be applied in the form of kainit, potash salts, sulphate of potash, or muriate of potash.

It is not always realised that on most soils, other than certain of the peaty types, sugar beet requires a generous amount of nitrogen. Like the mangold it benefits directly from sodium, an element which has a definite nutrient value for these crops.

Trials at Norfolk

In Bulletin No. 28 of the Ministry of Agriculture and Fisheries it is stated that nitrate of soda has a special superiority for use on mangolds and sugar beet. Of recent years a series of trials was carried out at the Norfolk Agricultural Station to determine the maximum amount of nitrate of soda which could profitably be applied as top-dressings to sugar beet. The object of the trials was to test under British conditions the Continental practice of applying up to 4 cwts. per acre of nitrate of soda to a crop receiving farmyard manure, phosphate and potash. The results showed that on fairly light land the economical limit was 3 cwts. per acre, at which amount maximum yield was obtained. The results also indicated, however, that on soils normally capable of giving high yield, and where other conditions—for example, moisture and temperature—do not limit growth, a fourth cwt. might profitably be used in most seasons.

There was no depression in the sugar content, provided all the 3 cwts. were put on early, but where the final top dressing was applied some six weeks after singling, a depression in the percentage of sugar occurred, due to the crop not being ripe when lifted. The general trend of the experiments showed that where late applications of nitrogen were given, the crop should not be lifted until late, and even then a depression in the sugar content might occur.

The time of application of Chilean nitrate is, therefore, of importance if the maximum benefit is to be obtained from its use. From practical observation in this country it has been found that the best results are obtained by applying about two-thirds of the total quantity, either as a straight dressing or in a compound, at the time of, or a few days before, drilling the seed, the remainder being applied as a top dressing immediately after singling.

Capitalisation and Reserves of Beet Sugar Companies

IN reply to Viscountess Astor (Unionist M.P. for Sutton) as to the approximate total amount of capital invested in the beet sugar factories and the amounts allocated to reserves, the following statements were given by Mr. Ormsby-Gore on behalf of the Chancellor of the Exchequer:—

CAPITAL OF BEET SUGAR FACTORY COMPANIES.

Company.	Share Capital.		Mortgages and Debentures.			Total Invested Capital as at 31-3-33
	Authorised.	Subscribed as at 31-3-33.	Original Amount.	Amount paid off by 31-3-33.	Amount Outstanding as at 31-3-33.	
	£	£	£	£	£	£
1. English Beet Sugar Corporation, Ltd. ...	500,000	500,000	—	—	—	500,000
2. Home Grown Sugar, Ltd. ...	250,000	145,500(a)	260,000	260,000	—	145,500
3. Ely Beet Sugar Factory, Ltd. ...	450,000	450,000	100,000	100,000	—	450,000
4. Ipswich B.S.F., Ltd. ...	400,000	400,000	100,000	100,000	—	400,000
5. King's Lynn ditto ...	450,000	450,000	—	—	—	450,000
6. Anglo-Scottish Beet Sugar Corporation, Ltd. ...	500,000	442,910	610,000	238,500	371,500(c)	814,410
7. West Midland Sugar Co., Ltd. ...	250,000	180,000	150,000	100,800	49,200	229,200
8. Second Anglo-Scottish Beet Sugar Corporation, Ltd. ...	250,000	240,500	865,000	123,600	741,400	981,900
9. Lincolnshire Sugar Co., Ltd. ...	332,500	332,500	225,000	161,000	64,000	396,500
10. Second Lincolnshire Sugar Co., Ltd. ...	185,000	162,067	51,500	5,000	46,500	208,567
11. United Sugar Co., Ltd. ...	300,000	300,000	—	—	—	300,000
12. Central Sugar Co., Ltd. ...	200,000	175,000	185,000	185,000	—	175,000
13. Yorkshire Sugar Co., Ltd. ...	275,000	196,874	—	—	—	196,874
14. Shropshire Beet Sugar Co., Ltd. ...	373,500	354,559	—	—	—	354,559
15. British Sugar Manufacturers, Ltd. ...	350,000	116,044(b)	250,000	50,000	200,000	316,044
	(nominal)					
	5,066,000	4,445,954	2,796,500	1,323,900	1,472,600	5,918,554

NOTES.—(a) Originally 500,000 shares of £1 each. Reduced in 1923 to 500,000 shares of 5s. each issued subsequently.

(b) Share capital written down from £348,130 in 1931-32.

(c) Balance Sheet shows also a liability of £140,000 in respect of 5 per cent. Convertible Notes.

In addition to the amounts given above, certain of the Companies have raised loans from banks and other sources. In a number of cases these are of a temporary nature and are repaid as opportunity arises. They are secured in some instances by the issue of mortgage debentures as collateral security. Share capital is not normally repayable.

RESERVE OF BEET SUGAR FACTORY COMPANIES AS AT 31st MARCH, 1933.

Company.	General Reserve.	Capital and Special Reserve.		Total
		£	£	
1. English Beet Sugar Corporation, Ltd. ...	409,399	37,120	—	446,519
2. Home Grown Sugar, Ltd. ...	27,809	43,793	—	71,602
3. Ely Beet Sugar Factory, Ltd. ...	233,902	30,000	—	263,902
4. Ipswich Beet Sugar Factory, Ltd. ...	135,688	22,500	—	158,188
5. King's Lynn Beet Sugar Factory, Ltd. ...	26,847	—	—	26,847
6. Anglo-Scottish Beet Sugar Corporation, Ltd. ...	—	40,255*	—	40,255
7. West Midland Sugar Company, Ltd. ...	50,000	12,423	—	62,423
8. Second Anglo-Scottish Beet Sugar Corporation, Ltd. ...	—	29,890	—	29,890
9. Lincolnshire Sugar Co., Ltd. ...	10,000	49,694	—	59,694
10. Second Lincolnshire Sugar Co., Ltd. ...	—	11,080	—	11,080
11. United Sugar Company, Ltd. ...	100,000	17,783	—	117,783
12. Central Sugar Company, Ltd. ...	50,000	—	—	50,000
13. Yorkshire Sugar Co., Ltd. ...	—	18,358	—	18,358
14. Shropshire Beet Sugar Co., Ltd. ...	—	18,532	—	18,532
15. British Sugar Manufacturers, Ltd. ...	—	—	—	—
Total ...	£1,043,645	†£331,428	—	†£1,375,073

* Also £90,855, provision for balance of loss in Subsidiary Company.

† Includes £165,815 advances under the British Sugar Industry (Assistance) Act, 1931.

Committee of Inquiry: Terms of Reference

ANSWERING a question in Parliament, whether the Chancellor of the Exchequer will amend the terms of reference of the Sugar Industry Inquiry Committee, so as to permit them to recommend that all State aid be withdrawn from the industry, Mr. Chamberlain replied that there was no reason to make any alterations in the terms of reference as they were very widely drawn and made it possible for the Committee to take into consideration what the questioner suggested.

Government Shareholding

IN answer to a question in Parliament, the Financial Secretary to the Treasury said that the Government still hold 250,000 ordinary shares of 5/- each in the Home-Grown Sugar Co., Ltd., and that the balance sheets of the Company show that during the years 1931-32 and 1932-33 sums of £27,596 and £48,254 respectively were allocated to revenue accounts from reserves. The accounts for the year ended 31st March are not yet available, but it is hoped that they will disclose a more favourable result.

A Patent for Making Fair Weather

A PATENT was granted by the German Patent Office for making fair, dry and warm weather by evaporating and disintegrating water containing solutions of caustic soda, ordinary salt, etc., with sulphuric acid by the action of electric currents, thus creating gas and vapour with a positive electric load which would rise into the higher atmosphere and thus increase the positive electric load.

Beet Sugar Subsidies

THE following table, given by the Financial Secretary to the Treasury, shows the amounts of original and supplementary estimates for beet sugar subsidy in each year since the inception of the subsidy:—

Extract from Hansard—27th March, 1934.

Year.	Original Estimates.	Supplementary Estimates.	Excess Votes.	Total.
	£	£	£	£
1924	—	516,500	—	516,500
1925	1,000,000	250,000	—	1,250,000
1926	2,750,000	450,000	25,859	3,225,859
1927	4,500,000	900,000	—	5,400,000
1928	4,250,000	—	—	4,250,000
1929	3,000,000	1,250,000	—	4,250,000
1930	5,400,000	600,000	22,972	6,022,972
1931	2,150,000	*225,000	—	*2,375,000
1932	2,400,000	—	—	2,400,000
1933	2,900,000	450,000	—	3,350,000
1934	†3,300,000	—	—	—

* £225,000 provided for payment of advances under the British Sugar Industry (Assistance) Act, 1931.

† Includes £3,220,000 subject to statutory authority being obtained in accordance with legislation now before Parliament for continuation of the Subsidy after 30th September, 1934.



Mr. F. Judd

MR. F. JUDD, of Christchurch, Wisbech, won the Countess of Denbigh trophy for the best crop of sugar beet grown upon twenty-five acres.

The percentage of washed sugar beet of the winning crop was 19.53 tons per acre, and the average sugar content 17.26 per cent., grown from Maroter's seed.

Horse-Hoe Demonstrations

A NUMBER of the latest patterns of horse-hoes were shown in practical use on the farm of Mr. R. Fisher, of Leconfield. The demonstration was organised by Major J. Lee Smith, of the Poppleton factory, in collaboration with the principal implement firms in the district.

Shipping and Sugar

IN answer to Col. Ropner (Unionist M.P.), who asked whether the shipping industry has been invited to give evidence before the Greene Committee of Inquiry, Mr. Ormsby-Gore, on behalf of the Minister of Agriculture, said that it was willing to receive written statements of evidence from any representative body and to consider in each case the advisability of examining witnesses.

Effect of Ferrous Sulphate on Yield of Sugar Beet

Yield Not Affected

H. I. MOORE, M.Sc., N.D.A., DIP. AGRIC. (CANTAB.)
(Department of Agriculture, The University, Leeds)

THE first experiments to test the value of ferrous sulphate on crop yield were made in 1846 by Salm-Hortsmar who obtained good results from its application to oats. Later, Continental workers found it beneficial to crop growth, and in 1886, Griffiths tried it England on meadow hay.

In 1887, an extensive series of experiments was carried out in France on the effect of ferrous sulphate on sugar beet. The conclusions drawn from these experiments were:—

1. The increase in yield varied from 5-30 per cent.

2. Sixty-five kilos. per hectare applied in solution was found to be the requisite quantity. Slightly more was required if applied in powder form, but the amount varied according to the nature of the soil.

In view of these results, plot experiments were commenced in the Department of Agriculture, Leeds University, in 1931. Ferrous sulphate in amounts up to an equivalent of 4 cwts. per acre was used. The ferrous sulphate was worked into the soil before sowing the seed. Plants treated with the iron salt had a slightly more vigorous leaf development and were of an intense green colour. The results were not outstanding, but seemed to justify further investigation on a field scale.

Accordingly in 1932, field trials were laid down at Askham Bryan Farm and in the county at two centres. The plots were arranged in Latin squares, and the treatments, which were in quadruplicate, were as follows:—

- Plot 1. Ferrous sulphate, $\frac{1}{2}$ cwt. per acre.
- Plot 2. Ferrous sulphate, 1 cwt. per acre.
- Plot 3. Ferrous sulphate, 2 cwt. per acre.
- Plot 4. Ferrous sulphate, 0 cwt. per acre.

The ferrous sulphate was applied as a powder at singling time. Prior to the com-

mencement of the experiments, a sample of soil was taken from each centre and the content of iron oxide determined by the HC_1 solution method.

In 1933, the trials were repeated at two centres with two rates of application, namely, 1 cwt. and 2 cwt. per acre of ferrous sulphate, which in these cases was applied before seeding.

The following table gives the average results for the treatments at each centre:—

Year	1932	1932	1932	1933	1933
Soil	Medium loam	Light sand	Sandy loam	Medium loam	Sandy loam
Per cent. iron oxide present ...	5.84	2.40	1.18	4.77	2.21
Size of plot ...	1/80	1/80	1/200	1/80	1/50
Yield washed beet per plot (lb.):—					
Control ...	244	203	121	359	672*
$\frac{1}{2}$ cwt. ferrous sulphate	223	222	136	—	—
1 cwt. „	222	220	130	357	650*
2 cwt. „	242	226	130	348	652*
Standard error (lb.)	8.9	7.0	5.2	10.9	

* Weights of unwashed beets from single plots.

If the measure of significance is taken at three times the standard error it will be seen that in no case has the ferrous sulphate given an increased yield. At two centres in 1932, on light sand and sandy loam soils, where the content of iron oxide was comparatively low, the increase in yield for an application of ferrous sulphate at the rate of $\frac{1}{2}$ cwt. per acre is on the borderline of significance. There was, however, no difference in yield between $\frac{1}{2}$, 1 and 2 cwt. applications. In 1933, the results were entirely negative.

Further trials are to be carried out, but it was thought that in the meantime the results already obtained would be of interest to beet growers, a number of whom have noted the effect of ferrous sulphate on their lawns and have tried it on the sugar beet crop.

News from the Factory Areas

From All Quarters

A MONTHLY BUDGET

ALLSCOTT

RAIN to the extent of 1.24ins. has been recorded for the month ended May 15th, as against 3.25ins. for the same period last year. Temperatures generally, until May 12th, were somewhat low, but from the 12th-14th there was a sudden rise to 75°. Minimum air temperatures have never fallen below 34°. On April 20th and 23rd, however, 2° of frost were recorded on the ground thermometer. During the last week of the period under review, very cold winds have been experienced which have adversely affected seedlings that were, until then, growing freely.

Although sowing of the majority of the main crop of beet was completed by May 28th, it has been necessary in quite a number of cases to re-sow owing to ravage by wireworm, which, unfortunately, is very prevalent this year. The sowing of calcium cyanamide as a nitrogenous constituent of the manurial dressing has now been proved as affording some measure of protection. It is necessary, however, to apply this manure a week in advance of sowing the seed for each cwt. used; that is to say, where three cwts. of calcium cyanamide are applied, it is necessary to dress three weeks before sowing. Where re-sowing is necessary, it is a wise precaution to apply crude naphthalene at the rate of 1-1½ cwts. per acre, mixed with sand in order to ensure an even distribution. The cost of this application works out at approximately 12/- to 18/- per acre.

With the exception of a cold spell during the week ending May 19th, when growth was completely checked, the weather has been favourable and has enabled a good start to be made on the all important job of singling. More growers than ever have adopted the scheme of payment on singling results, and satisfaction is general.

A party of the younger generation of Shropshire beet growers has just returned from a visit to Kleinwanzleben, where a very interesting time was spent inspecting both the seed-breeding establishment and estates.

The 1934 Year Book has now been issued to all Allscott growers, who should derive much benefit from the facts and figures it contains.

BARDNEY and BRIGG

It is now possible to write these notes in a more optimistic strain than would have been possible some days ago. About half an inch of rainfall on June 7th freshened the crop up considerably and rapid growth has followed. Further rain now would again help matters. Generally speaking, crop prospects are as favourable as they were at this time last year. The stands are slightly better and the weather has been ideal for cleaning the crop. A small acreage has been re-sown, chiefly due to wireworm and flea beetle.

That the four-row horse hoe demonstration at Redbourne on May 23rd proved a great attraction to growers, was clearly demonstrated by the large attendance. Some very good work was done under conditions which were not too favourable, as the plant was only moderate. It is as yet a debatable point whether the four-row hoe with two men, is a more economic proposition than the two-row hoe with one man, when one takes into account the greater degree of accuracy obtained by the smaller tool.

The venue of the Lincolnshire Agricultural Society's Show this year is at Gainsborough on June 20th, 21st and 22nd. We shall, as usual, be exhibiting our stand, and a welcome is extended to all growers and others interested. Behind the stand it is proposed to have on view an array of up-to-date implements for work in the beet crop.

Labour has been adequate this season and where any shortage has occurred, the Mobile Officer of the Ministry of Labour, has been able to obtain men at short notice.

A demonstration of the Robot transplanting machine was held on May 29th at Swineshead, and about one acre was effectively planted by the machine. Unfortunately, however, very dry weather and scorching sun followed, with the result that over half of the plants have died. It would appear that this process can only succeed when weather conditions, following the operation, are entirely favourable, and whilst admitting that the robot machine is an ingenious invention, one has grave doubts that it can prove to be successful on a commercial basis so far as sugar beet, a notably delicate plant, is concerned.

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BURY ST. EDMUNDS

Practically all the beet has been drilled in this area, and the early sown has been chopped out and in some cases singled.

Considerable difficulty has been experienced in obtaining a plant on the early sowings, mainly due to wireworms, turnip flies and gale damage. Cross chopping out is now being tried with both mechanical and horse-drawn hoes.

On May 25th, the Millar Tractor Hoeing Unit was demonstrated alongside Messrs. Cornish and Lloyds' steerage horse-hoc, and further demonstrations are being given in the near future.

COLWICK

A larger proportion of beet was drilled in April than in any previous year, and about 90 per cent. of our acreage was sown by the end of the first week in May. Germination has been good and rapid and the "stand" is above the average. Unfortunately, on May 6th, a violent gale destroyed several acres of beet on sand land, the young plants being cut off by flying particles of sand. Most of this, however, has been re-drilled.

Farm work in general is very forward and most growers are ready and anxious to start singling at the earliest possible moment. Warmer conditions are needed to encourage growth.

CUPAR

The sowing of sugar beet is being conducted generally throughout Scotland under very favourable conditions. With a satisfactory seed-bed and sufficient moisture, germination has also been rapid.

A certain amount of delay has been experienced during the sowing season, especially on the heavier type of soils, through the intermittent rainfall, the total recorded locally during the five weeks ending April 28th amounting to 4.79 inches.

Features of the present season are the earlier application of artificial manures, and the increased attention to liming in those districts where a lime deficiency is known to exist. Many excellent "brairds" are already in evidence, and with a continuance of genial weather conditions, a successful germination in all districts is anticipated.

FELSTEAD

The third week of April was wet and little sowing took place, but the last week was more variable; the first week of May was again showery.

Seed was drilled in excellent order and germination was in most cases rapid and full, but wire-worm attack has been very prevalent, even on land which was tight, these pests have managed to work. Several pieces of beet are therefore having to be re-sown.

Subsequent weather has been rather cold with some night frosts, and beet are therefore not getting away from insect attacks as rapidly as desirable. A warm moist spell is needed.

KIDDERMINSTER

Thanks to good weather conditions since the middle of April, beet drilling is well forward; we should say, on average, we are a week ahead of last season. The commencement of the planting season found most beet land ready and in excellent tilth.

Some nice showers of rain from time to time have

been very welcome, and have not seriously held up sowings. As a consequence we do not expect a large number of under-sowings, and believe that our agreements will be well up to area recorded under contract.

With good growing weather most of the time during the past few weeks, we have not seen any "root-burn" at all, but the more common insect pests have been found as troublesome as usual. In a large proportion of early sowings those crops which have to be re-drilled are being re-sown in good time.

During the middle of May, we experienced some cold winds, and slight night frosts have been reported locally, but not of a serious nature. The spring gave us a good send off, and we have every reason to look for a good season and heavy tonnage, given a reasonable and average summer.

PETERBOROUGH

It was indeed fortunate that the drought did not commence any earlier than it did, for had the conditions in April been the same as they have been since the beginning of May, it is highly improbable that the excellent germination which has resulted in such remarkably good "stands" would have materialised. Reports from the various districts vary, as is only to be expected over a factory area which is so wide in extent and draws beets from almost every type of soil. Making due allowance for this the general outlook is satisfactory, but at the same time there is a certain degree of concern in farming circles at the entire lack of rain. With reference to the Fen districts, the second year of comparative drought may well bring into prominence one aspect of farming husbandry which has, of course, received little or no attention during the past years of wet summers, viz., the conservation of moisture. It appears somewhat doubtful whether sufficient use is made from an irrigation point of view of the excellent drainage system. It is moreover significant that in cases where farmers have control of their own water supply, conservation of the water is practised with highly satisfactory results.

The amount of re-drilling which has been necessary this year is not in any way a guide to the amount of harm done by disease and insect pests, etc., in so much that a great deal of this was caused by damage by gales during the latter half of May. The remaining plant failure can nearly all be accounted for where beet has been drilled on the same field two or more years consecutively, a practise which wherever possible should be avoided. Observations still further emphasise the necessity for clearing off all the old crowns if sugar beet is to be drilled on the same field two years running with any degree of safety, as has often been stated plant failure is very rare on fields which have been closely folded by sheep.

On June 13th the members of the agricultural staff visited the Norfolk Agricultural Station at Sprowston and were highly interested in the attractive programme of demonstrations which had been arranged. Apart from the research investigations which are being carried out in connection with all crops and branches of farming, one cannot leave the Sprowston Station without a feeling of great appreciation for the fine effort that Mr. Raynes and his colleagues are putting forth in order to improve the sugar beet crop and the thorough way in which every avenue of possible im-

provement in the management of the crop is being pursued; an effort which is well worthy of the support of everyone who has the well-being of the industry at heart.

POPPLETON

As we write, about 70 per cent. of our acreage has been sown; the majority of this has germinated in record time and singling will be general by the end of the first week in June.

The recent wind storms have damaged some sand land crops, but no re-sowings have been reported to date.

A well-attended horse-hoe demonstration was held at Mr. R. Fisher's farm, Leconfield, Beverley, on May 11th, when growers, implement manufacturers and factory officials had a good opportunity of comparing notes and observing practical advantages of various types of horse-hoes at work.

SELBY

Sugar beet crops in this area are slightly earlier than last year, as growers were able to sow in good time under ideal conditions.

Wire-worm has been rather troublesome in some districts and in consequence it has been necessary to re-sow a small acreage of beets, but on the whole the plants appear to be healthy and growing satisfactorily.

Singling is now in full swing and, owing to the dry and sunny weather of the past few weeks, this work is well forward and a large number of additional men have been recruited for this work through the local employment exchanges.

It is interesting to note that this year a much larger acreage has been sown on the flat, growers realising the importance of narrower rows in order to obtain the maximum plant population per acre, and to assist farmers in this direction the factory has distributed a much larger number of modern implements than in previous years, with encouraging results.

A horse and mechanical hoeing demonstration and competition was recently held on the farm of Mr. G. Nixon, of Gunby Hall, near Selby, which was attended by over 500 farmers. Much interest was taken in the work done by the various implements and the event proved a great success.

SPALDING

The last month has given us variable weather, from very hot to very cold, with thunderstorms, hail and gales. Sowing is now completed. Plants are good, but the variable weather is not conducive to rapid growth.

A little damage was done by gales on the very light land, and there have been a few attacks of fly where beet is being grown after beet.

The fine condition of the land led to some of our old trouble—drilling too deep. It is extraordinary still to find a farmer gaily following his drill with three to four weights on each coulter, and the seed being put a good three inches below the surface. The natural sequence is no crops and the blame put on the seed.

Anglo-Dutch Group

CANTLEY

THE month of May has been too dry and too cold for vigorous growth. The seed has germinated well, but a larger proportion of the crop than usual has failed, and has been re-drilled. The young

plants have not flourished and have been unable to resist the attacks of pests. Although the crop is generally earlier than last year, we do not consider it so good.

We are pleased to state that singling has been commenced very promptly, and as the fields are particularly clean the work has progressed rapidly.

ELY

Rather severe storms and high winds were experienced early in May, but the weather since has been mainly fine with plenty of sunshine over the last fortnight, consequently rain would now prove beneficial, particularly on the "highlands." The high winds have been responsible for about 1,000 acres having to be re-drilled for this factory.

Chopping out and singling are general, and this work will be practically completed by the time these notes are published. As a whole, germination has been excellent, and the crop looks well. There is apparently no shortage of labour in this district.

IPSWICH

Variable weather has been experienced in these areas since our last report, and at time of writing we are experiencing dry weather, but definitely cold for the time of the year.

During the past fortnight, applications for seed for re-drilling have been rather numerous, and our reports indicate that insect pests have done damage in some parts of the factory area, more particularly on the heavy land. On the other hand, we have many reports of good, well-established plants of beet, a considerable acreage being already cut out and singled. A good, warm rain would be very beneficial just now.

We should like to remind our growers that the Ministry of Labour are anxious to put hoers at the disposal of any growers who may need them for their sugar beet. Such labour can be easily secured through the local Labour Exchanges, and we strongly advise any of our growers who are short of men to apply to the Exchanges without delay.

KELHAM

The seed went in extraordinarily well, and, on the average, sowings were made a week earlier than usual.

The cold winds in the first half of the month checked the growth of the plants and, in many cases on the light lands, buried and bruised the plants, necessitating re-sowings. Fly and wire-worm have been prevalent, but the warmer weather during the last ten days has allowed the beet to overcome the attacking fly.

Chopping out and singling is now well advanced in this area. May has been a very dry month, with drying winds, and our whole area could do with alight rain.

KING'S LYNN

We are experiencing a very dry period and crops in many districts would benefit considerably by good copious rains. The sugar beet crop is growing well and at the time of writing a large proportion of our acreage has been singled.

We have had cases of re-planting, but not quite so many as in previous years, caused by mangold fly, wire-worm and wind storms, but taking it on the whole, however, the crop looks very well. We recorded .732 inches of rain and 209 hours of sunshine during the month.

Lincolnshire Beet Prospects

By a Special Correspondent

AS is the case with everything in the farmer's rotation, one crop is no sooner harvested and out of the way than thoughts turn naturally to what is to follow, and though it may seem early yet to speak of the new beet season at a time when the little plants have done no more than firmly establish themselves above ground, it is just at this season, with June being ushered in, and warmer weather daily expected, that the farmer looks for the first visible progress to be made. So far the weather can scarcely have been said to come up to expectations. Fears of drought are for the moment gone. We want warmth, sunshine, even a little heat wave. Given the right kind of weather, the beet grower in most of the very varied conditions of Lincolnshire would have little of which to complain.

It would be wrong to suggest, of course, by inference, that there has been anything so far in the nature of a real set-back. What has happened is that the cold weather, accompanied sometimes by quite severe winds, has retarded early development. Cases are reported of occasional re-sowings, which have been necessary owing to the influence of the weather and the difficulty which young plants have of withstanding attack by pests such as turnip fly and wire worm when they are not making any growth. It is not unreasonable to hope, however, that this is no more than a passing phase. If a period of warm weather succeeds the colder spell, no more will probably be heard of trouble of this kind.

New Methods Welcomed

Reports which are received at the factories from all over Lincolnshire, indicate that the seed-beds this year have been carefully prepared; sowing as a whole has been carried out reasonably early, thus making for early maturity, which is always stressed as an important factor, and, in general, the farmer is showing a greater readiness to adopt the methods which experience is more and more pointing to as being desirable. The charge of being slow to recognise an improved method and of being out-of-date in his appliances which has been levelled against the Lincolnshire farmer in the past, is one which could certainly not be applied to the best type of beet grower to-day. One hopeful sign in the present season, which may be taken as significant, is that local growers have been using more seed per acre than ever before. With beet growing it is an axiom, but an axiom which farmers have in some cases been slow to accept, that generosity in the use of seed is in the end the wisest economy. This year more seed has been used and, generally speaking, it is only where less than the recommended amount of seed has been sown that trouble with pests has been at all serious. A better plant can be obtained by generous seeding.

Additional Growers

That beet growing is continuing steadily and unobtrusively to extend its appeal in Lincolnshire,

as in East Anglia generally, the current statistics show. Bardney and Brigg, for instance, have a few hundreds of additional growers among the 5,500 who are under contract with them in the present season, and though a hundred or two is no great matter with figures already running into thousands, the trend of numbers, as of farming opinion towards the crop, is obvious and unmistakable. Certain extensions are again being made at both factories which are designed to give assistance in helping the organisation to cope with the colossal tonnages for which plans have to be made.

Recently, growers here have received copies of a very attractive new publication—a purely local effort, and, therefore, all the more interesting—*Sugar Beet Annual*. The little work is really ably produced and, containing as it does so much data and so much practical and authoritative advice for the guidance of growers, it is sure to be welcomed and carefully preserved by those who receive it.

Decreasing Beet Prices

A section which provides at a glance the best demonstration we have seen of the rise of the beet crop in the area covered by the Bardney and Brigg factories is that which gives, in the form of two tables, the number of growers, acreage, tonnage, etc., for the period from 1927, when the Bardney factory was established, to the present time. We see how Bardney started off well with 2,800 growers, but beet, as we are reminded in an adjoining column, was then selling at a basic price as high as 54/-. In the following year there was a big drop to 46/-, causing a falling away of more than a third in the number of growers and a diminution in the crop to the record low figure of 7,200 acres. Since this low level of 1928 progress has continued steadily year by year, with the exception of 1931, when there was a setback owing to the further reduction which was then made in the basic price. All these details are interesting and of retrospective value, but the most illuminating feature of both the Bardney and Brigg tables seems to be the column showing the gross returns per acre realised by the grower. This has the admirable effect of translating to personal £ s. d. all the other details, and shows the result of averaging the whole of the consignments of a particular season.

Good Returns

Curiously enough, as it seems to one who is not a farmer, there has been little change from the time that the growth of sugar beet was commenced until to-day. In 1927, with the price of beet at 54/-, the grower obtained a return of £19 14s. 7d. from the Bardney factory, and last year, with beet at 38/-, he received £18 18s. 6d. The explanation is, of course, as the tables show, that though the farmer received less per ton on the basic calculation, he has been successful in improving both his tonnage yields and his sugar percentages since those early days. Sugar contents seem now to be roughly one per cent. higher and acreage yields about two tons more. With greater knowledge of the crop, it is clear that the farmer is becoming more successful as a cultivator.

To Farmers who are not Beet Growers

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At the British Sugar Beet Society's Luncheon in London

[Photo: Rawood]

Sugar Beet Society Luncheon

ONE of the most important meetings of those engaged or interested in the British sugar beet industry took place at the Hotel Victoria, London, on April 26th. The occasion was the annual luncheon of the British Sugar Beet Society which followed the annual business meeting and the distribution of prizes under the official Regional Scheme, both of which functions attracted a record attendance.

Everybody greatly regretted the absence of Mr. Walter Elliot, the Minister of Agriculture, who had to cancel his attendance owing to his recent operation. The great interest taken in the future of the home-grown beet industry accounted for the record attendance of 500, who had to be accommodated in the main restaurant instead of the usual banqueting rooms. Although the audience was disappointed by the absence of Mr. Walter Elliott, whose influence and powerful support brought together the whole of the British sugar industry into a plan of re-organisation, there were a number of distinguished speakers who raised questions of considerable interest to the future policy of the industry.

Among these was the Right Hon. Earl de la Warr, who, toasting "The British Sugar Beet Industry," spoke of the difficulties the farmer of to-day has to face. "I am pretty sure," he said, "that very few men or women would have anything to do with farming unless they were of the type which is prepared to face difficulties." In no realm of the industry, he continued, was that spirit more rife than among those responsible for the growing of sugar beet. The enormous increase in growers, acreage and the increase in yield entitled farmers to say that in the growing of

sugar beet they could claim to equal the efficiency of any other European country excepting the Netherlands.

"What about our future prospects," he went on, "in which we are all most vitally interested at the moment, and on which our minds must perforce be dwelling? We have already had submitted to us a marketing scheme by the manufacturers. You must forgive me if I do not make any comment on that scheme, because once it is submitted to us it is *sub judice*, and we have to act in a judicial capacity in giving our views upon it, but I would like to take this opportunity of paying our tribute to the real statesmanship that has been shown, alike by the refiners and by the manufacturers, in the manner in which they have brought forward this scheme."

Mr. S. O. Ratcliffe, President of the N.F.U., in his response to the toast, made an eloquent appeal for fair treatment for agriculture. Agriculturists, he declared, were entitled as landlords to expect to receive something more for the money they had laid out than they had received in the past—somewhere about one per cent.

He added: "I also feel that the factories that have laid out an enormous amount of capital in this industry have some claim on the country, because of the vast amount of labour they employ. I believe the number of men actually employed in the factories alone is 10,000 and I understand they are using a very large amount of coal and other products which are employing a large number of men. The industry itself in the actual production of sugar beet is employing another 13,000 men approximately, and I reckon that it is keeping on the land at least another 15,000 men, because it is helping to produce other crops and so keep men employed all the year round."

What's Doing and Happening in the Beet Sugar Industry?

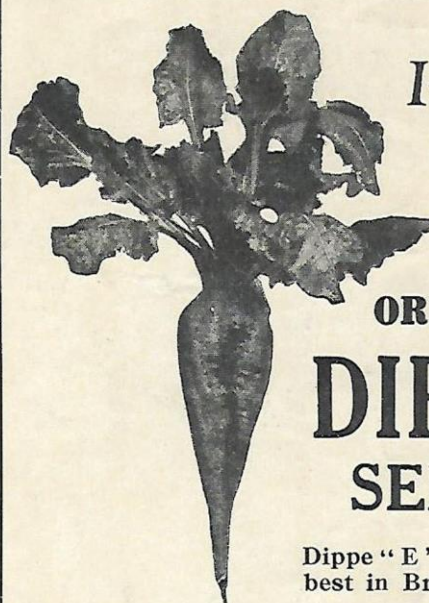
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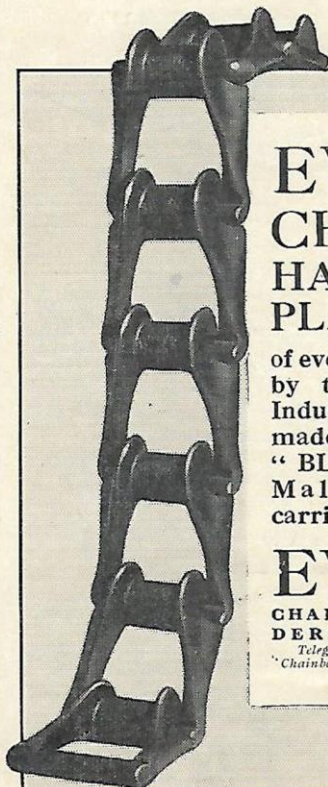
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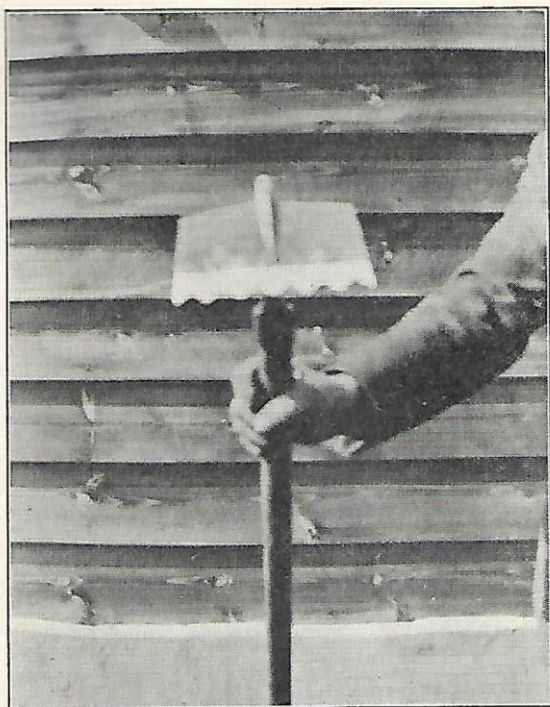
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The Felstead (Patent) Improved Singling Hoe (No. 1 Pattern)

Improved Hand Singling Hoe

ALL close observers of the singling of beet must have long felt that the work of the men on this most important operation was often handicapped by the use of an indifferent hoe. Although horse-hoes and mechanical tools have been greatly improved, the same hand-hoe without material alteration has persisted for generations—and this was invented for killing weeds! This new singling hoe is an attempt to meet the case and the following advantages are claimed for it:—

The special pointed corners or teeth should enable efficient singling to be done with the minimum of back bending.

The teeth will grip the ground and ensure a definite and decided stroke in the right place—no slipping and cutting out of the wrong beet; therefore a higher plant population is assured.

Only 50% ground resistance. Quicker work—one place one stroke.

Cleaner ground—the teeth will grip the ground and cut all weeds, which cannot slide under and escape them.

The teeth will “drive into” the work and not “ride out”; all the ground will therefore be moved.

The ground will be left better. The serrated edge of the tool will leave a mulch and not a smooth, hard surface; a great advantage on ground inclined to “cap.”

NOTE: These hoes are being specially manufactured and are of the best steel, specially hardened and polished, in order that the points shall remain good as long as possible. Patent applied for.

A sample can be obtained (price 2/9, post free) from: H. E. B. Sheaves, Second Anglo-Scottish Beet Sugar Corporation, Ltd., Felstead, Essex.

N.F.U. Sugar Beet Committee

THE report of the Sugar Industry Inquiry Committee of the Sugar Beet Committee was presented by Mr. Ratcliff.

The Committee considered the evidence prepared by the Sub-Committee for submission to the Committee of Inquiry. Various drafting amendments were made and a vote was taken on the question of recommending a pooling of the profits of the factories available for distribution to the growers. It was carried by a majority that the recommendation should be included in evidence.

Sugar Beet Year Book

THE 1933-34 year book of the Shropshire Sugar Beet Company, Ltd., gives an interesting history, told mainly in figures, of the Allscott (Wellington, Shropshire) beet sugar factory. Details of crop yields, number of growers, and total supplies and production during the seven years of the working are given, together with interesting articles on subjects of interest to growers.

The Mason Cup

THE Mason Cup for sugar beet was awarded, for the second year in succession, to Mr. Geo. W. Green, of Upwell. Mr. Green's yield on just over 6½ acres was 21½ tons of washed beet per acre, with a sugar content of 16.3 per cent., equalling 7,912 lbs. of sugar per acre.

Sugar Factory for Northern Ireland

NORTHERN Ireland imported 50,000 tons of sugar and it is suggested that one or two beet sugar factories could easily be supported. Sugar beet could be barged cheaply into the factories on the Lagan Canal, which has a length of about 70 to 80 miles in the six counties.

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American Sugar Quotas

The following quotas for sugar from the different sources of supply were announced recently by the U.S.A. Government :—

Raw Value.	Quotas fixed for 3 years. Long tons.	Original quotas of President Roosevelt. Long tons.	Estimated Production 1933-34. Long tons.
U.S. Beet	1,389,286	1,294,643	1,466,053
Lousiania and Florida (cane)	233,036	232,143	225,000
Virgin Islands	4,464	4,464	7,000
Hawaii	818,750	834,821	919,000
Porto Rico	716,964	733,036	876,000
Philippines	906,250	925,893	1,300,000
Cuba	1,698,214	1,735,714	2,200,000
Full duty (foreign)	15,000	—	—
	<u>5,781,964</u>	<u>5,760,714</u>	<u>6,993,053</u>

Mr. M. Golodetz, in his weekly sugar market review, makes the following interesting comments on the policy of sugar protection on national lines :—

Depression in sugar, felt throughout the world, is being cured not internationally, but within given State limits which sometimes extend to Colonies and Possessions of the respective national unity. This results in sugar losing more and more the character of a world commodity, moving freely, and subject, in market matters, to international influences. The policy of sugar protection on national lines has taken such root in important sugar producing areas, that a total uprooting of the practice represents a most difficult task, which at any rate cannot be accomplished within a short time. In the meantime, sugar people must live, and agriculture, forming the background, must subsist. Consequently, the same human

agency which originated the evils in sugar must be made to work out an effective cure. The measure just passed in America can be considered a step in the right direction. It was the community of producers, operating for the huge American outlet, who, by uncontrolled expansion, during the last four or five years, totally upset the Chadbourne scheme to balance world supply and demand. By fixing the maximum figure of coming output in that important area of production at a quantity which, approximately, is equal to American requirements, a definite check is put on tendencies towards expansion. Producers in the British Empire have sinned much less in the matter of extension of production out of accord with requirements of the world aspect of sugar. The intentions and tendencies underlying the present marketing scheme in the United Kingdom tend to keep back excesses on this side too.

British Sugar Statistics

BELOW we give the Board of Trade sugar returns for the United Kingdom, up to, and including, April, 1934.

A. Imports.		April, 1934.	April, 1933.	April, 1932.	March, 1934.	Feb., 1934.	Jan.-Apl., 1934.	Jan.-Apl., 1933.
1. REFINED.								
Total Refined all countries	Tons	3,617	1,682	2,909	4,689	2,339	12,791	8,407
2. UNREFINED.								
Union of South Africa	...	—	—	—	2,915	6,500	17,267	32,486
Mauritius	...	17,035	25,502	18,854	13,793	17,441	101,357	125,594
Australia	...	7,707	1,309	6,111	35,802	43,855	186,320	48,544
Fiji Islands	...	7,000	—	6	812	7,773	35,788	25,105
B.W. India Islands	...	40,207	34,501	9,944	12,718	8,440	61,562	46,834
British Guiana	...	6,084	10,120	9,867	11,906	11,602	47,060	30,776
Other British Countries	...	1,100	—	—	595	994	4,709	—
Total British Imports	... Tons	<u>79,133</u>	<u>71,432</u>	<u>44,782</u>	<u>78,541</u>	<u>96,605</u>	<u>454,063</u>	<u>309,339</u>

[Continued on next page]

Continued from page 207

	April, 1934.	April, 1933.	April, 1932.	March, 1934.	February, 1934.	Jan.-Apl., 1934	Jan.-Apl., 1933.
Poland	—	—	14,372	—	—	—	11,510
Germany	—	25	732	—	—	—	25
Dutch East Indies	400	—	25,362	475	—	875	52,961
U.S.A.	1,226	763	836	1,922	847	5,241	3,752
Cuba	28,804	59,552	85,296	2,542	14,909	102,842	99,906
San Domingo	19,610	21,856	16,114	42,394	9,707	71,711	66,966
Peru	13,848	15,919	20,046	4,992	7,264	54,372	85,472
Brazil	—	—	—	7,464	3,726	11,385	23,588
Other Foreign Countries	1,850	20,725	148	5,607	5,564	13,578	31,878
Total Foreign Imports	65,868	118,840	162,906	65,396	42,017	260,004	376,058
Total Imports Tons	148,488	191,954	207,688	148,626	140,961	726,858	693,804

B. Exports.

REFINED.

Irish Free State	457	369	6,795	337	199	1,310	1,823
British India	1,312	5,563	2	19	1,884	4,960	18,498
Other British Countries	2,571	2,592	1,991	3,483	2,768	12,458	19,662
Total to British Countries	4,340	8,524	8,788	3,839	4,851	18,728	39,983
Finland	1,559	1,991	653	1,874	1,886	7,767	5,568
Esthonia	1,335	39	686	709	608	3,093	2,817
Latvia	—	—	—	—	—	59	—
Norway	2,899	1,772	1,348	4,376	4,099	14,199	11,657
Netherlands	1,879	2,806	16	1,237	319	3,546	6,473
Uruguay	806	1,782	3,617	3,491	2,067	9,134	8,797
Other Foreign Countries	9,409	3,166	2,203	6,427	4,945	26,522	23,483
Total to Foreign Countries	17,887	11,556	8,523	18,114	13,924	64,320	58,795
Total Exports Tons	22,227	20,080	17,311	21,953	18,775	83,048	98,778

C. Consumption.

1. Foreign Refined	} on which Duty has been paid	3,342	1,798	2,744	4,215	2,345	12,099
2. Raws		224,129	173,218	205,927	195,937	153,949	717,777
Total Tons		227,491	175,016	208,671	200,152	156,294	729,876
Less Exports Tons		22,227	20,080	17,311	21,953	18,775	83,048
Net Consumption Tons		205,264	154,936	191,360	178,199	137,519	646,828

D. Stock on 1st May, 1934.

1. Raws	344,400	367,100	163,100	453,300	503,250
2. Home-grown	99,250	66,000	4,500	119,300	134,100
3. Foreign Refined	1,700	2,200	1,450	1,700	1,700
Total Stocks Tons	445,350	435,300	169,050	574,300	639,050